

REMARKS

Claims 1 - 41 are pending in the present application, but claims 34 and 35 are withdrawn from consideration.

Applicants note with appreciation that the Examiner has allowed claim 33, and that claims 2 – 32 would be allowable if claim 2 was rewritten in independent form.

Presently, claims 34 and 35, as noted above, are withdrawn from consideration. However, claims 34 and 35 depend from claim 33, and as such, include all of the features of claim 33. Whereas claim 33 is allowed, and whereas claims 34 and 35 therefore depend on an allowed claim, **Applicants are requesting that the Examiner reinstate claims 34 and 35.**

Section 1 of the Office Action is requiring a new title. Applicants are amending the title to more clearly indicate the invention to which the claims are directed.

In section 3 of the Office Action, claims 1 and 36 – 41 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,038,279 to Miyake et al. (hereinafter "the Miyake et al. patent"). Of this set of rejected claims, five are independent, namely claims 1, 36, 39, 40 and 41. Applicants are clarifying an aspect of each of claims 1, 36, 39, 40 and 41 that is not disclosed by the Miyake et al. patent.

Claim 1 provides for an illumination system. The illumination system includes, *inter alia*, an optical element, wherein light that impinges on the optical element is reflected by the optical element.

The Miyake et al. patent is directed toward an X-ray generating device (abstract). FIG. 1 shows an embodiment of the device that includes a plurality of YAG laser units 9, a plurality of laser beam collecting optical systems 10, and a laser plasma target 11 (col. 5, lines 4 – 11). The Miyake et al. patent states, at col. 5, lines 17 – 21:

Laser beams emitted from the respective YAG lasers 9 are focused on different points 1 on the target 11 through the laser beam focusing optical systems 10 so as to generate plasmas of high temperature, each of which generates X-rays 2. (emphasis added)

The Office Action suggests that laser target 11 is a disclosure of the optical element of claim 1. However, whereas laser beams that are focused on laser target 11 generate plasmas, which in turn generate X-rays, laser target 11 does not reflect the laser beams. Consequently, the Miyake et al. patent does not disclose an optical element, wherein light that impinges on the optical element is **reflected** by the optical element, as recited in claim 1. Thus, the Miyake et al. patent does not anticipate claim 1.

Claim 36 provides for a projection exposure apparatus. The apparatus includes, *inter alia*, an illumination system that, in turn, includes an optical unit having a plurality of raster elements for redirecting each of a first light bundle and a second light bundle, to produce a combined light bundle for illuminating a mask. Whereas in the Miyake et al. patent, laser beams that are focused on laser target 11 generate plasmas, which in turn generate X-rays, laser target 11 does not redirect the laser beams, and does not combine the laser beams. Therefore, the Miyake et al. patent does not disclose an optical unit having a plurality of raster elements for **redirecting** each of a first light bundle and a second light bundle, to **produce a combined light bundle**, as recited in claim 36. Thus, the Miyake et al. patent does not anticipate claim 36.

Claims 37 and 38 depend from claim 36. By virtue of this dependence, claims 37 and 38 are also novel over the Miyake et al. patent.

Claim 39 provides for a method that includes, *inter alia*, combining a first light bundle having a wavelength ≤ 193 nm, and a second light bundle having a wavelength ≤ 193 nm, to produce a combined light bundle. Whereas in the Miyake et al. patent, laser beams that are focused on laser target 11 generate plasmas, which in turn generate X-rays, laser target 11 does not combine the laser beams. Therefore, the Miyake et al. patent does not disclose **combining** a first light bundle having a wavelength ≤ 193 nm, and a second light bundle having a wavelength ≤ 193 nm, to **produce a**

combined light bundle, as recited in claim 39. Thus, the Miyake et al. patent does not anticipate claim 39.

Claim 40 provides for a projection exposure apparatus that includes, *inter alia*, an optical element for collecting and condensing light to produce a combined light bundle to illuminate a reticle in an area to expose a pattern on a substrate. Whereas in the Miyake et al. patent, laser beams that are focused on laser target 11 generate plasmas, which in turn generate X-rays, laser target 11 does not combine the laser beams. Therefore, the Miyake et al. patent does not disclose an optical element for collecting and condensing light **to produce a combined light bundle**, as recited in claim 40. Accordingly, Applicants further submit that the Miyake et al. patent does not anticipate claim 40.

Claim 41 provides for a projection exposure apparatus that includes, *inter alia*, an optical unit for combining light from first and second light sources, to produce a combined light bundle. Whereas in the Miyake et al. patent, laser beams that are focused on laser target 11 generate plasmas, which in turn generate X-rays, laser target 11 does not combine the laser beams. Therefore, the Miyake et al. patent does not disclose an optical unit for **combining light** from first and second light sources, **to produce a combined light bundle**, as recited in claim 41. Accordingly, Applicants further submit that the Miyake et al. patent does not anticipate claim 41.

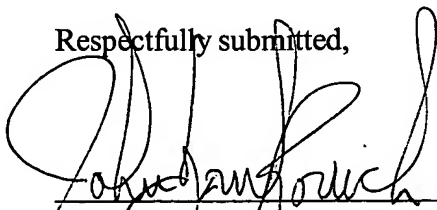
Applicants respectfully request reconsideration and withdrawal of the section 102((b) rejection of claims 1 and 36 – 41.

As mentioned above, Applicants are clarifying an aspect of each of claims 1, 36, 39, 40 and 41 that is not disclosed by the Miyake et al. patent. Applicants are amending claim 32 to correct a recitation of a term, and amending claims 37 and 38 for consistency with the amendment of claim 36. None of the amendments is intended narrow the meaning of any term of the claims, and as such, the doctrine of equivalents should be available for all of the elements of all of the claims.

In view of the foregoing, Applicants respectfully submit that all claims presented in this application patentably distinguish over the prior art. Accordingly, Applicants respectfully request favorable consideration and that this application be passed to allowance.

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Date

Respectfully submitted,



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